CLAIM AMENDMENTS

Claims 1-21 (canceled).

Claim 22 (currently amended): A green Diode laser, comprising:

a tubular laser casing having a first opening end and a second opening end;

a heat sink sealedly mounted at said first opening end of said laser casing;

a semiconductor chip supported by said heat sink for emitting a pumping radiation;

an optical resonant cavity supported within said laser casing, including a lasing medium supported by said laser casing to optically communicate with said semiconductor chip for a light amplification of fundamental frequency, and an intracavity frequency doubler supported by said laser casing to optically communicate with said lasing medium for frequency doubling of said fundamental frequency, wherein an input facet is formed at said lasing medium for said pumping radiation entering thereinto, an output facet is formed at said intracavity frequency doubler for said frequency-double beam exiting therefrom;

an IR blocking filter inclinedly and sealedly mounted at said second opening end of said laser casing to optically communicate with said output facet of said intracavity frequency doubler; and

a photodiode supported by said heat sink at a position that when said frequency-double beam exits said output facet, said IR blocking filter reflects a portion of said frequency-double beam towards said photodiode such that said photodiode is adapted for detecting said frequency-double beam from said IR blocking filter as a feedback for controlling a power output of said optical resonant cavity.

Claim 23 (currently amended): The green diode laser, as recited in claim 22, wherein said lasing medium and said intracavity frequency doubler are combined together, wherein said input facet of said lasing medium is coated with a coating having a high transmissivity at a wavelength of 808nm and a high reflectance at wavelength of 1064nm and 532nm while said output facet of said intracavity frequency doubler is

coated with a coating having a high transmissivity at a wavelength of 532nm and a high reflectance at a wavelength of 1064nm.

Claim 24 (previously presented): The green diode laser, as recited in claim 23, wherein a filter having a high transmissivity at a wavelength of 532nm and a high reflectance at wavelength of 1064nm and 808nm is covered on the light detecting surface of the photodiode.

Claim 25 (previously presented): The green diode laser, as recited in claim 24, wherein said intracavity frequency doubler is KTP.

Claim 26 (previously presented): The green diode laser, as recited in claim 25, wherein said lasing medium is Nd:YVO_4.

Claim 27 (previously presented): The green diode laser, as recited in claim 26, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 28 (previously presented): The green diode laser, as recited in claim 25, wherein said lasing medium is Nd:$GdVO_4$.

Claim 29 (previously presented): The green diode laser, as recited in claim 28, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 30 (previously presented): The green diode laser, as recited in claim 23, wherein a light detecting surface of said photodiode is coated with a coating having a high transmissivity at a wavelength of 532nm and a high reflectance at wavelength of 1064nm and 808nm.

Claim 31 (previously presented): The green diode laser, as recited in claim 30, wherein said intracavity frequency doubler is KTP.

Claim 32 (previously presented): The green diode laser, as recited in claim 31, wherein said lasing medium is Nd:YVO_4.

Claim 33 (previously presented): The green diode laser, as recited in claim 32, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 34 (previously presented): The green diode laser, as recited in claim 31, wherein said lasing medium is Nd:$GdVO_4$.

Claim 35 (previously presented): The green diode laser, as recited in claim 34, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 36 (previously presented): The green diode laser, as recited in claim 22, wherein said lasing medium and said intracavity frequency doubler are spaced with each other, said input facet of said lasing medium is coated with a coating having a high transmissivity at a wavelength of 808nm and a high reflectance at wavelength of 1064nm and 532nm while a facet of said lasing medium opposite to said input facet is coated with a coating having a high transmissivity at wavelength of 1064nm and 532nm, said output facet of said intracavity frequency doubler is coated with a coating having a high transmissivity at a wavelength of 532nm and a high reflectance at a wavelength of 1064nm while a facet of said intracavity frequency doubler opposite to said output facet is coated with a coating having a high transmissivity at wavelength of 1064nm and 532nm.

Claim 37 (previously presented): The green diode laser, as recited in claim 36, wherein a filter having a high transmissivity at a wavelength of 532nm and a high reflectance at wavelength of 1064nm and 808nm is covered on the light detecting surface of the photodiode.

Claim 38 (previously presented): The green diode laser, as recited in claim 37, wherein said intracavity frequency doubler is KTP.

Claim 39 (previously presented): The green diode laser, as recited in claim 38, wherein said lasing medium is Nd:YVO_4.

Claim 40 (previously presented): The green diode laser, as recited in claim 39, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 41 (previously presented): The green diode laser, as recited in claim 38, wherein said lasing medium is Nd:$GdVO_4$.

Claim 42 (previously presented): The green diode laser, as recited in claim 41, further comprising a focusing device mounted between said semiconductor chip and said input facet of said lasing medium for focusing of said pumping radiation.

Claim 43 (previously presented): The green diode laser, as recited in claim 22, further comprising a Q-switch crystal supported within said laser casing between said lasing medium and said intracavity frequency doubler for converting said laser beam into a pulsed one.

Claim 44 (previously presented): The green diode laser, as recited in claim 22, further comprising a single mode device supported within said laser casing between said lasing medium and said intracavity frequency doubler for converting said laser into a single longitude mode laser.